

LISTING OF THE CLAIMS

Following is a listing of all claims in the present application, to which no further amendments have been made.

1. (Previously Presented) A method of guaranteeing users' anonymity in a wireless Local Area Network (LAN) system, the method comprising:
  - (a) creating a temporary address set by randomly transforming a unique Media Access Control (MAC) address of a wireless terminal, and simultaneously transmitting a plurality of addresses included in the temporary address set to the wireless terminal; and
  - (b) performing data packet transmissions between the wireless terminal and a wireless access node using a temporary address selected from the temporary address set corresponding to the wireless terminal as a source address or a destination address, wherein in (a), the wireless access node encodes the temporary address set using a predetermined encryption key for the temporary address set, and transmits the encoded temporary address set to the wireless terminal.
2. (Previously Presented) The method as claimed in claim 1, wherein in (a), the wireless access node creates the temporary address set, which consists of N (where N is an integer greater than or equal to two) temporary addresses using a MAC address contained in an access or authentication request message transmitted from the wireless terminal.
3. (Cancelled)
4. (Previously Presented) The method as claimed in claim 1, wherein each encryption key is created upon authentication of the wireless terminal.

5. (Previously Presented) The method as claimed in claim 1, wherein (b) further comprises:

(b1) a first addressing, which is performed in the wireless access node, and generates a destination address by randomly selecting, as the destination address, one of the plurality of temporary addresses from the temporary address set of the wireless terminal after the wireless terminal has requested authentication.

6. (Previously Presented) The method as claimed in claim 5, wherein (b) further comprises:

(b2) a second addressing, which is performed in the wireless terminal, and generates a source address by randomly selecting, as the source address, one of the plurality of temporary addresses from the temporary address set of the wireless terminal.

7. (Previously Presented) A tangible computer readable medium having embodied thereon a computer program for the method claimed in claim 1.

8. (Previously Presented) A tangible computer readable medium having embodied thereon a computer program for the method claimed in claim 2.

9. (Previously Presented) A tangible computer readable medium having embodied thereon a computer program for the method claimed in claim 6.

10. (Previously Presented) A wireless Local Area Network (LAN) system of guaranteeing users' anonymity comprising:

at least one wireless terminal; and

a wireless access node adapted to create a temporary address set by randomly transforming a unique Media Access Control (MAC) address of wireless terminal, and use a temporary address selected from the temporary address set as a destination address, wherein the wireless terminal is adapted to simultaneously receive a plurality of temporary addresses included in the temporary address set corresponding to the unique MAC address thereof, and use a temporary address selected from the received temporary address set as a source address, wherein the wireless access node encodes the temporary address set using a predetermined encryption key for the address set, and respectively transmits the encoded temporary address set to the wireless terminal.

11. (Previously Presented) The system as claimed in claim 10, wherein the wireless access node creates the temporary address set, which consists of N (where N is an integer greater than or equal to two) temporary addresses using the MAC address contained in an access or authentication request message transmitted from the wireless terminal.

12. (Cancelled)

13. (Previously Presented) The system as claimed in claim 10, wherein the encryption key is created upon authentication of the wireless terminal.

14. (Previously Presented) The system as claimed in claim 10, wherein the wireless LAN system includes a plurality of wireless terminals each having a respective unique MAC address and the wireless access node is adapted to create a respective temporary address set for each of the plurality of wireless terminals, each of the temporary address sets being created by randomly transforming the respective unique MAC address of the corresponding wireless terminal, and the wireless access node comprises:

a first memory adapted to store the temporary address sets, each of which consists of N (where N is an integer greater than or equal to two) random addresses;

a first MAC address filter adapted to filter one of the respective unique MAC addresses from a source address of a data packet received from one of the wireless terminals by referring to the temporary address sets stored in the first memory;

a destination address generation unit adapted to enable a respective one of the temporary address sets corresponding to the filtered unique MAC address of the wireless terminal having requested authentication from among the temporary address sets stored in the first memory, and generate a first random selection signal; and

a first random selection unit adapted to receive the first random selection signal from the destination address generation unit, randomly select one of the random addresses from the temporary address set enabled in the first memory according to the first random selection signal generated in the destination address generation unit, and output the selected random address to the destination address generation unit, wherein the destination address generation unit uses the selected random address as a respective destination address.

15. (Previously Presented) The system as claimed in claim 14, wherein at least one of the plurality of the wireless terminals comprises:

a second memory adapted to receive and store the respective one of the temporary address sets corresponding to the unique MAC address thereof from the wireless access node;

a second MAC address filter adapted to determine whether a destination address of a data packet received from the wireless access node is included in the respective one of the temporary address sets that is stored in the second memory, and generate a receipt enable signal according to a determination result;

a source address generation unit adapted to generate a second random selection signal according to a source address request signal; and

a second random selection unit adapted to randomly select one of the random addresses from the respective one of the temporary address sets stored in the second memory according to the second random selection signal generated in the source address generation unit, and output the selected random address to the source address generation unit, wherein the source address generation unit uses the selected random address as a respective source address.

16. (Previously Presented) A wireless access node of guaranteeing users' anonymity comprising:

a memory adapted to receive and store a plurality of temporary address sets, each of which consists of N (where N is an integer greater than or equal to two) random addresses and is created by randomly transforming a unique MAC address of a wireless terminal; and

a destination address generation unit adapted to enable a temporary address set corresponding to the unique MAC address of the wireless terminal requesting authentication from among the temporary address sets stored in the memory, generate a temporary address randomly selected from the enabled temporary address set, and use the temporary address as a destination address, wherein the temporary address set is encoded using a predetermined encryption key for the temporary address set, and a plurality of temporary addresses included in the encoded temporary address set is simultaneously transmitted to the wireless terminal.

17. (Previously Presented) The wireless access node claimed in claim 16 further comprising:

an MAC address filter adapted to filter the unique MAC address from a source address of a data packet received from a corresponding wireless terminal by referring to the temporary address sets stored in the memory.

18. (Previously Presented) The wireless access node claimed in claim 17 further comprising:

a random selection unit adapted to randomly select a temporary address from the temporary address set enabled in the memory according to a random selection signal, and output the selected temporary address to the destination address generation unit.

19. (Previously Presented) A wireless terminal of guaranteeing users' anonymity comprising:

a memory adapted to receive and store a temporary address set including a plurality of temporary addresses simultaneously transmitted to the wireless terminal, created by randomly transforming a unique MAC address of the wireless terminal and encoded using a predetermined encryption key for the temporary address set, from a wireless access node, and store the temporary address set; and

a source address generation unit adapted to generate a temporary address randomly selected from the temporary address set stored in the memory, and use the temporary address as a source address.

20. (Previously Presented) The wireless terminal claimed in claim 19 further comprising:

an MAC address filter adapted to determine whether a destination address of a data packet received from the wireless access node is included in the temporary address set by referring to the temporary address set stored in the memory, and generate a receipt enable signal according to a determination result.

21. (Previously Presented) The wireless terminal claimed in claim 20 further comprising:

a random selection unit adapted to randomly select one of the plurality of temporary addresses from the temporary address set stored in the memory according to a random selection signal generated from a source address request signal, and output the selected temporary address to the source address generation unit.